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EXERCISES
FOR
TECHNICAL INSTRUCTION IN WOOD-WORKING.

DESIGNED AND DRAWN BY
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SET I.—Plates 1 to 32.

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PREPARATION FOR RECTANGULAR PRISMS



Saw and plane a piece of wood to $7\frac{1}{2} \times 4\frac{1}{2} \times \frac{3}{4}$; test with winding strips and blade of square. Line out into $1\frac{1}{2}$ strips; saw to the marks and true up with plane

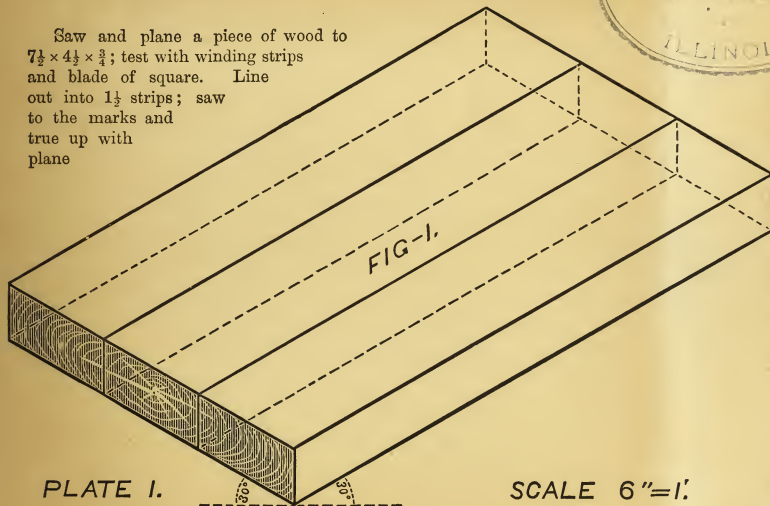


PLATE I.

SCALE 6"=1'

Saw and plane a piece of wood to $7\frac{1}{2} \times 4\frac{1}{2} \times \frac{3}{4}$; test with winding strips and blade of square. Line out into $1\frac{1}{2}$ strips; saw to the marks and true up with plane

FIG 1.

FIG 3.

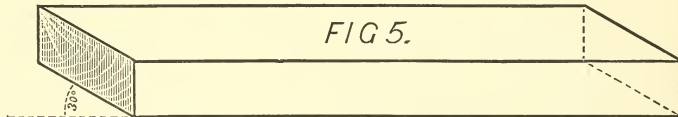


FIG
2

FIG 4.

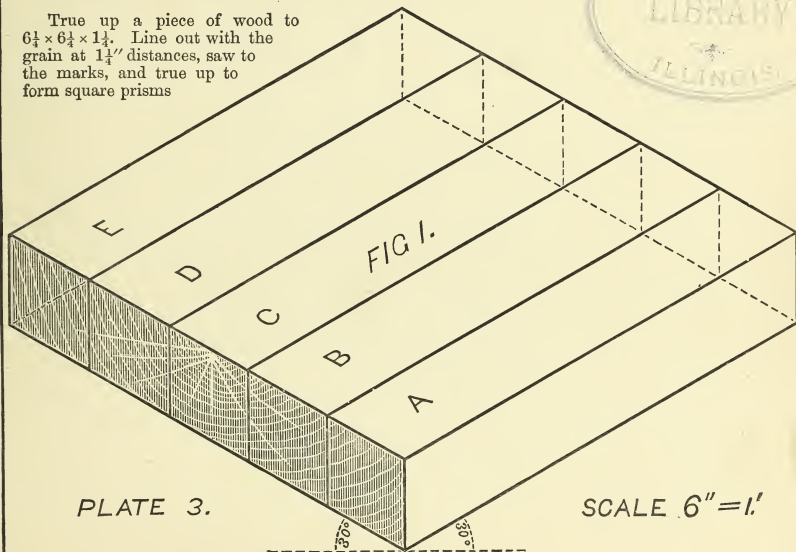
PLATE 2.

SCALE 6"=1'

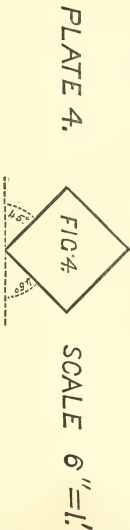
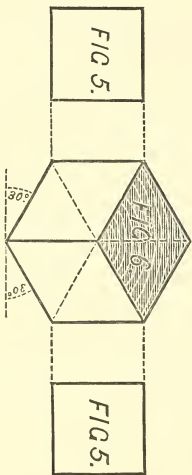
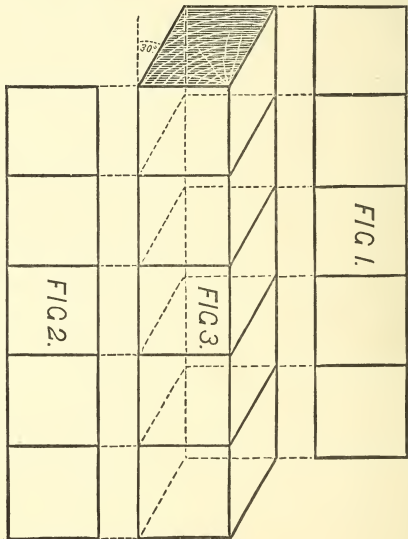
RECTANGULAR PRISM

PREPARATION FOR CUBES

True up a piece of wood to $6\frac{1}{4} \times 6\frac{1}{4} \times 1\frac{1}{4}$. Line out with the grain at $1\frac{1}{4}$ " distances, saw to the marks, and true up to form square prisms



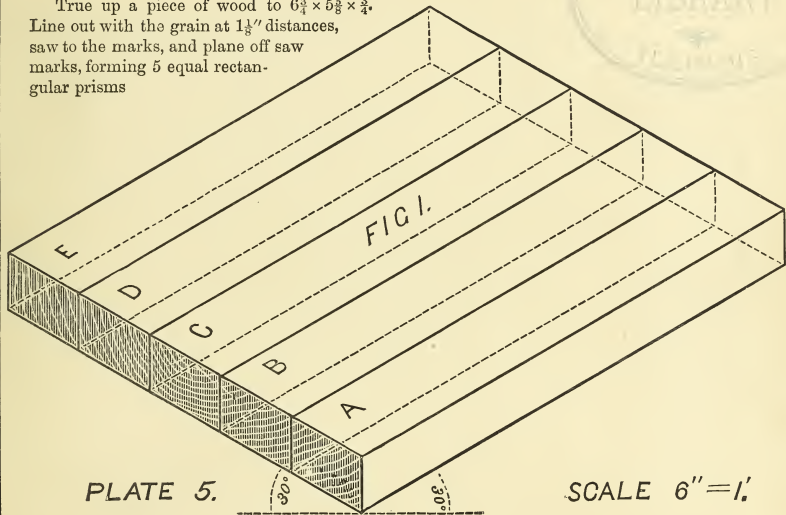
CUBES



Gauge each prism of Plate 3 across the grain into five equal parts; saw to the marks and trim with chisel to form cubes

PREPARATION FOR MODEL BRICKS

True up a piece of wood to $6\frac{3}{4} \times 5\frac{5}{8} \times \frac{3}{4}$.
Line out with the grain at $1\frac{1}{8}$ " distances,
saw to the marks, and plane off saw
marks, forming 5 equal rectan-
gular prisms



MODEL BRICKS

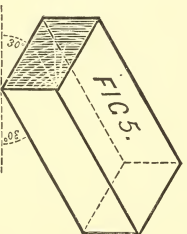
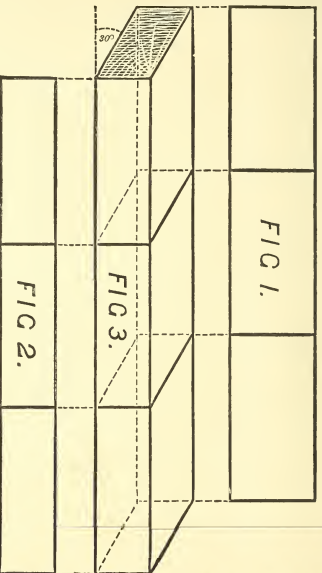


PLATE 6.

SCALE 6"=1"

Use the strips from Plate 5. Gauge each across the grain into 3 equal parts; saw to the marks and trim with chisel

PROJECTION OF PLAIN NAILED BOX

Prepare two pieces of wood $8\frac{1}{2} \times 5 \times \frac{1}{2}$,
two $5 \times 5 \times \frac{1}{2}$, and one $8\frac{1}{2} \times 6 \times \frac{1}{2}$. Nail
the first four together to form sides
and ends of box, and then
fasten on the bottom with
nails or screws

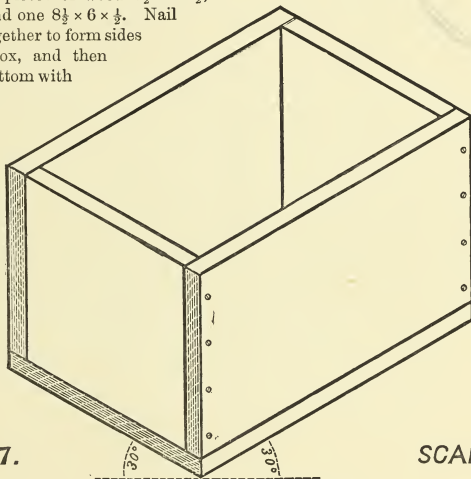
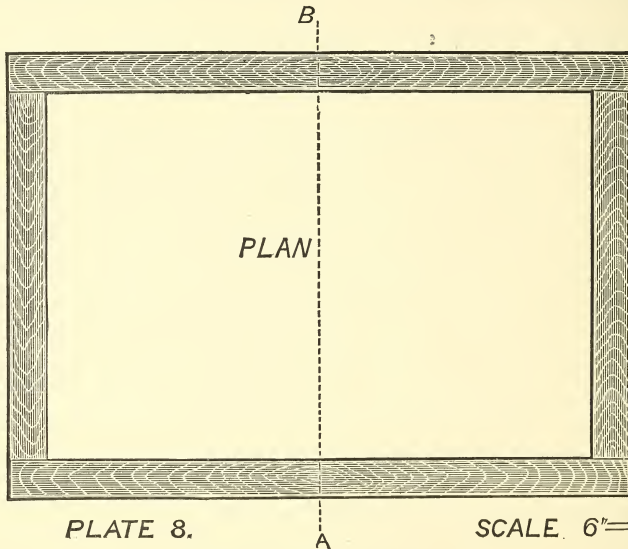


PLATE 7.

SCALE 3"=1'

PLAN OF PLAIN NAILED BOX



Prepare two pieces of wood $8\frac{1}{2} \times 5 \times \frac{1}{2}$, two $5 \times 5 \times \frac{1}{2}$, and one $8\frac{1}{2} \times 6 \times \frac{1}{2}$. Nail the first four together to form sides and ends of box, and then fasten on the bottom with nails or screws

EXERCISES IN SAWING

True up two pieces of wood $7\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$;
gauge each front and back down the
middle and also on the top at $1\frac{1}{4}$ " dis-
tances. In one piece square these
lines over to F G; in the other
carry them over at 45° to A E.
Saw down A, B, C, D, E to F G.

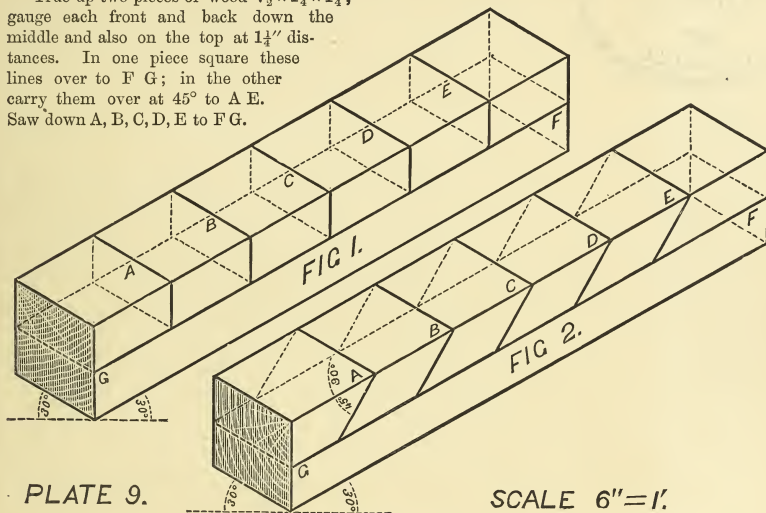


PLATE 9.

SCALE 6"=1'.

EXERCISES IN SAWING OBLIQUELY

True up two pieces of wood to $7\frac{1}{2}'' \times 1\frac{1}{4} \times 1\frac{1}{4}$;
gauge as shown in sketches, and saw
exactly to the marks, noting that in
fig. 1 the cuts are oblique to one
face, and in fig. 2 to both.

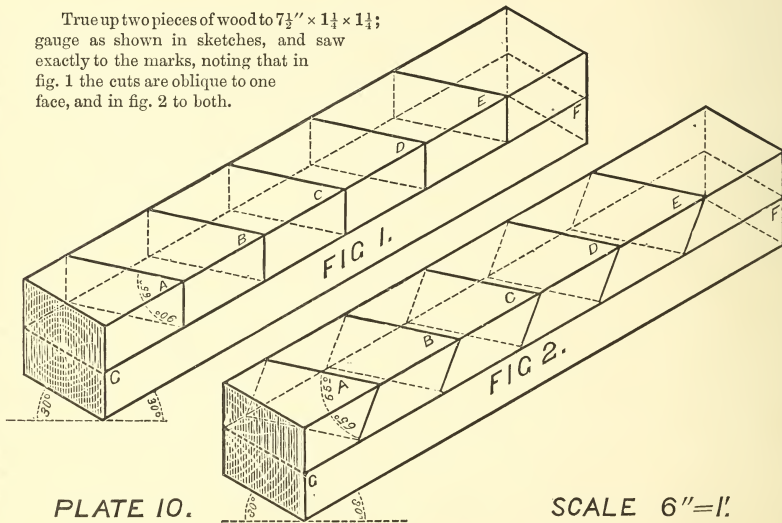


PLATE 10.

SCALE 6"=1"

EXERCISES IN SAWING AND TRENCHING

Prepare two strips of wood $7\frac{1}{2} \times 1\frac{3}{4} \times 1\frac{1}{4}$.
Gauge as in sketches; saw exactly
to the marks, and take out pieces
with chisel.

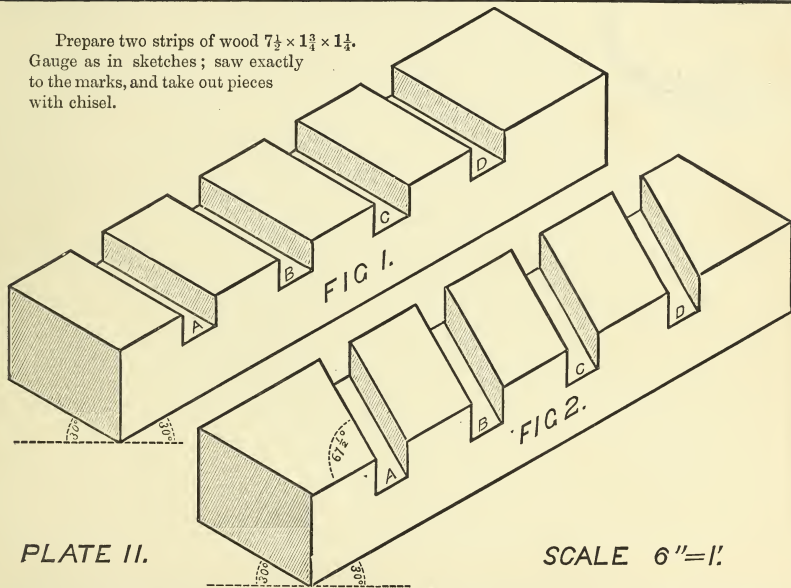


PLATE II.

SCALE 6"=1'

EXERCISES IN CHAMFERING

Use two of the strips from plates 1 and 2.
Gauge the first down the middle of the top, and along front at $\frac{1}{2}$ " from top edge. Gauge the second along the top at $\frac{1}{2}$ " from front and back edges, and along the front and back at $\frac{1}{2}$ " from the top.
Plane to the marks.

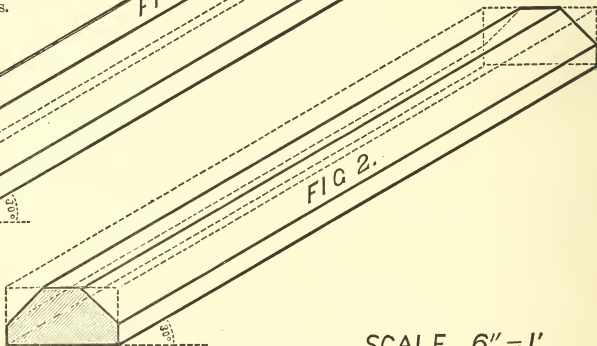
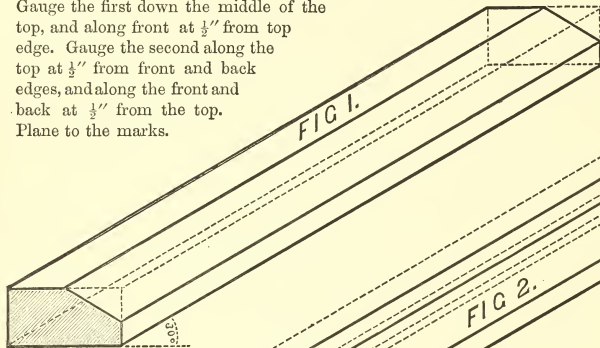


PLATE 12.

SCALE 6" = 1'

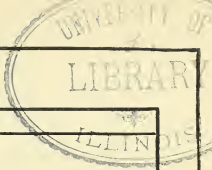
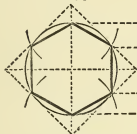


FIG. 1.



HEXAAGON

FIG. 3.

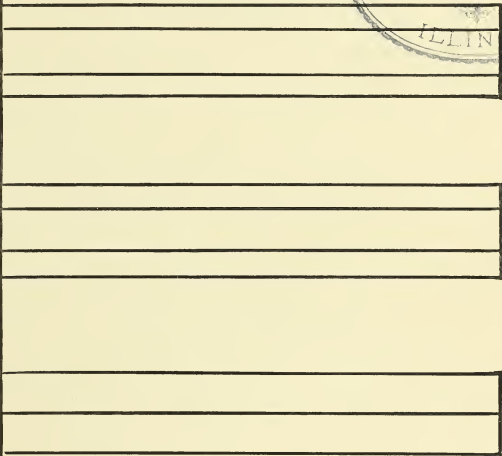


OCTAGON

FIG. 2.



HEXAAGON



Prepare wood $6\frac{3}{4} \times 1\frac{1}{4} \times 1\frac{1}{4}$; set out figures on the end, and line out down the whole length. Plane to the marks. Finish the cylinder with glass-paper

Prepare wood $6\frac{3}{4} \times 1\frac{1}{4} \times 1\frac{1}{4}$; set out figures on the end, and line out down the whole length. Plane to the marks. Finish the cylinder with glass-paper

PRISMS

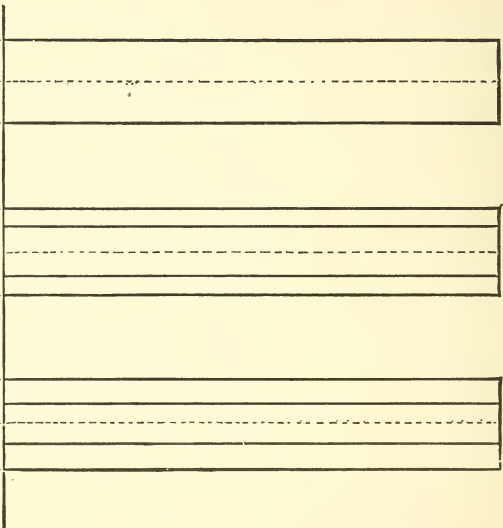
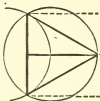


FIG. 1.

FIG. 2.

FIG. 3.

TRIANGULAR PRISM



PENTAGON



HEPTAGON

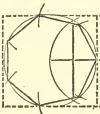


PLATE 14.

SCALE 6"=1'

Prepare wood $6\frac{3}{4} \times 1\frac{1}{4} \times 1\frac{1}{4}$; set out figures on the end, and line out down the whole length. Plane to the marks. Finish the cylinder with glass-paper

CYLINDER AND PRISMS

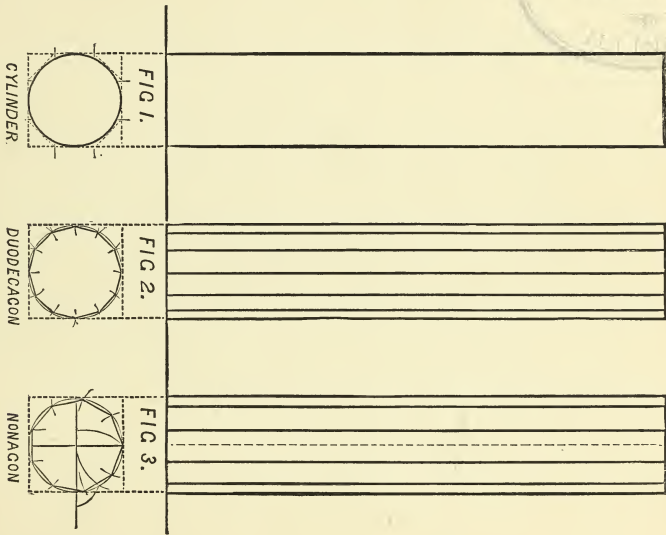


PLATE 15.

SCALE 6"=1'

HALF-LAP SPICE JOINT

FIG 2.



FIG 1.

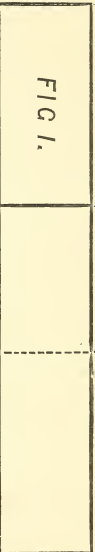


FIG 3.



True up a piece of wood to $9\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$ and halve it. Gauge each as shown in fig. 1, and saw to the marks. Trim with chisel, if necessary, till the pieces exactly fit

FIG 5.

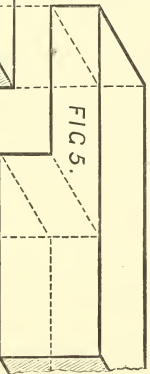
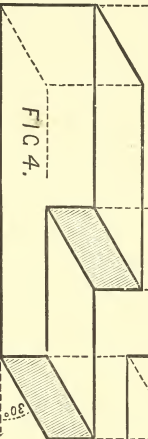


FIG 4.



30°

PLATE 16.

SCALE 6"=1'

CORNER HALF-LAP JOINT

Prepare piece of wood $9 \times 1\frac{1}{4}$
 $\times 1\frac{1}{4}$ and halve it. Mark off lap
 on each piece as in figs. 2 and 3.
 Saw to the marks, and trim with
 chisel.

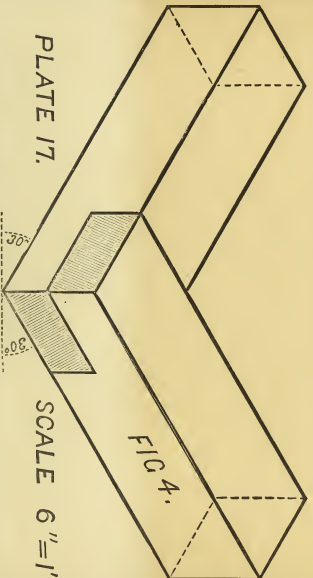
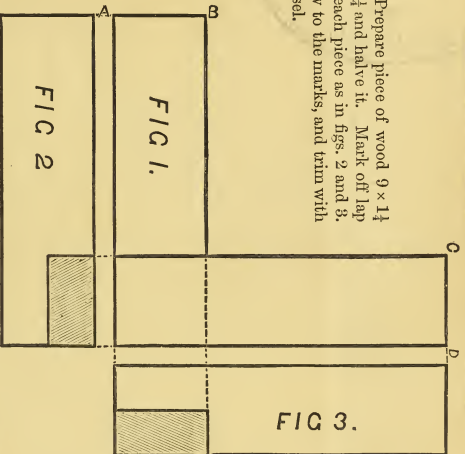


PLATE 17.

SCALE 6"=1'

HALF-LAP DOVETAILED SPLICE JOINT

FIG 2.

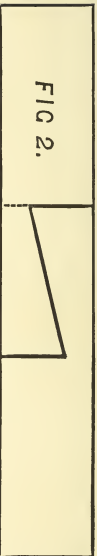


FIG 1.

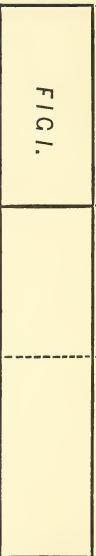


FIG 3.



True a piece of wood to $9\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$ and halve it. Gauge as in fig. 2; saw to the lines, and pare with chisel if required

FIG 4.

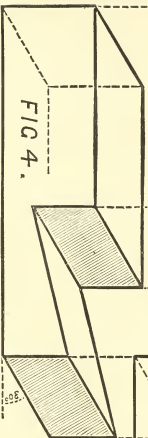


FIG 5.

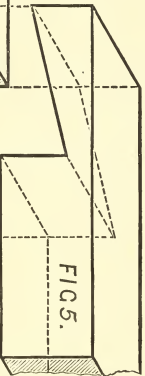


PLATE 18.

SCALE 6"=1'

CORNER HALF LAP DOVETAIL JOINT

Saw and plane a piece of wood to $9 \times 1\frac{1}{4} \times 1\frac{1}{4}$ and halve it. Gauge each piece as shown in figs. 2 and 3. Saw to the marks, and pare to obtain a good fit if necessary.

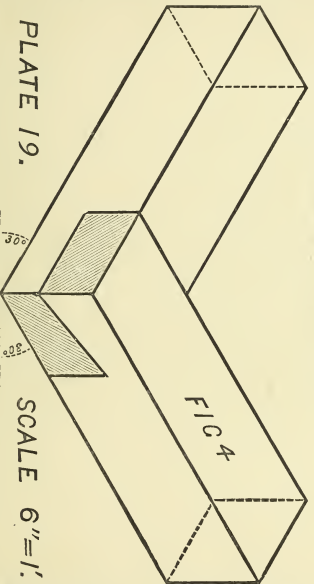
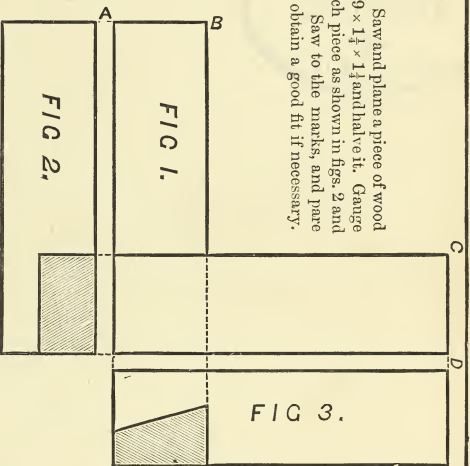
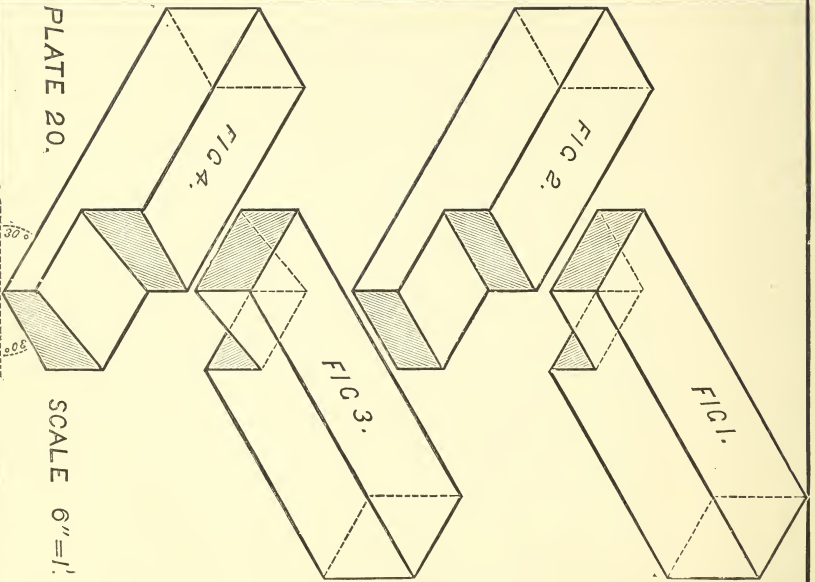


PLATE 19.

SCALE 6"=1'

PROJECTION OF CORNER HALF-LAP AND HALF-LAP DOVETAIL JOINTS



*Designed and drawn by H. Jay, Technical Instructor
under Nottingham School Board*

*Arranged by E. R. Kidson, F.G.S., Science Demonstrator
under Nottingham School Board*

PLAN OF FRAME WITH HALF-LAP JOINTS, OR WITH HALF-LAP DOVETAIL JOINTS

Trye up four pieces of wood to $7\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$, and joint them by half-lap or half-lap dovetail joints.

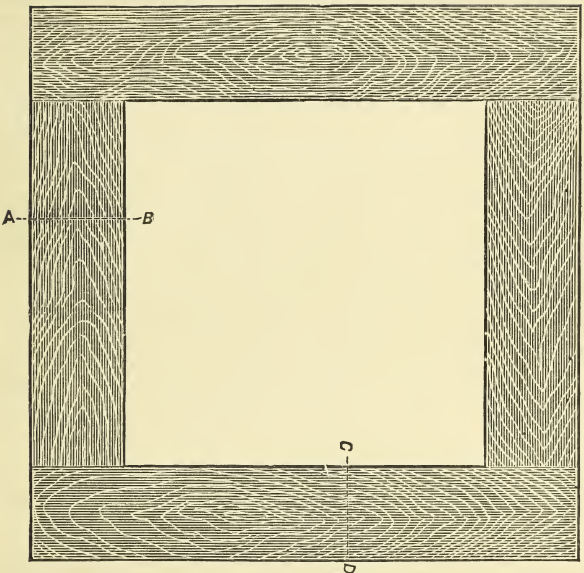


PLATE 21.

SCALE 6"=1'

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under Nottingham School Board*

Prepare a piece of wood $8\frac{3}{4} \times 1\frac{1}{4} \times 1\frac{1}{4}$ and saw into two— $4\frac{1}{2}$ and $4\frac{1}{4}$ respectively. On longer set out lap at centre, and on the shorter at the end, as in figs. 3 and 4. Saw exactly to the marks, and take out centre lap with chisel

CENTRE HALF-LAP JOINT

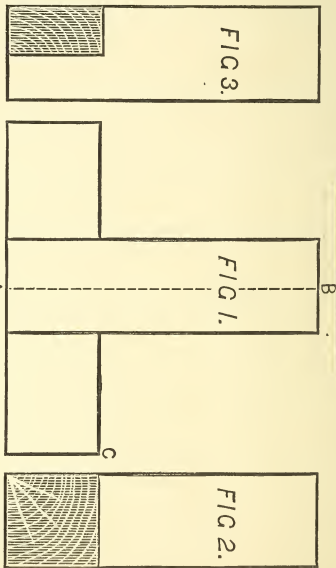
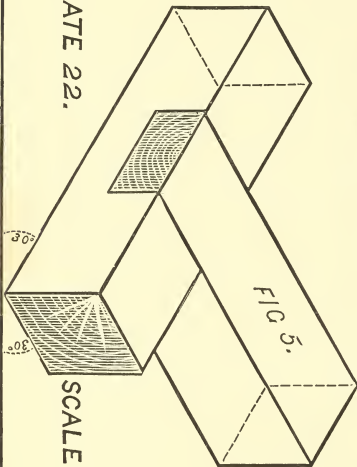


PLATE 22.

SCALE 6"=1'



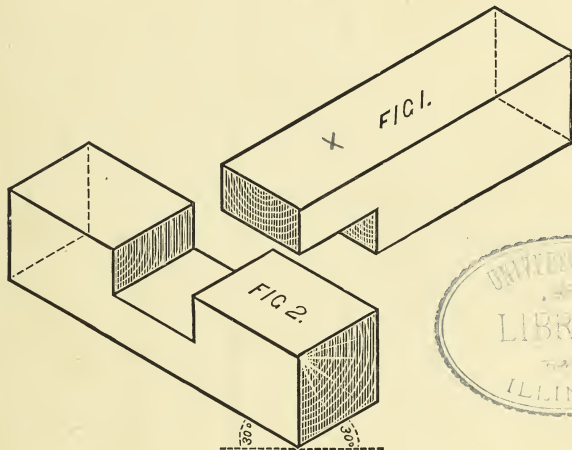


PLATE 23.

SCALE 6"=1'

HALVED NOTCHED JOINT

True up a piece of wood to $12 \times 1\frac{1}{4} \times 1\frac{1}{4}$ and halve it. Gauge the pieces as in figs. 2 and 3; saw to the marks, and take out pieces with chisel.

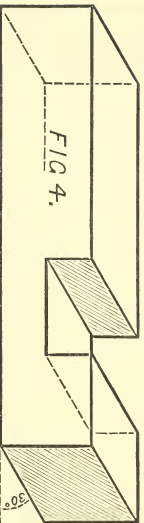
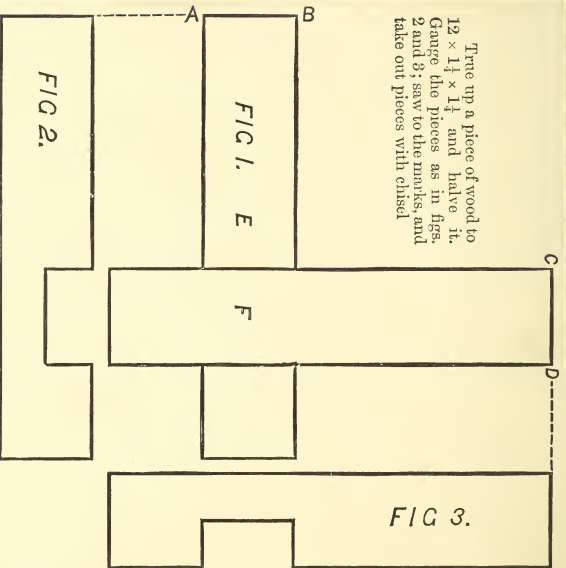


PLATE 24.

SCALE 6"=1'

PROJECTION OF HALVED NOTCHED JOINT

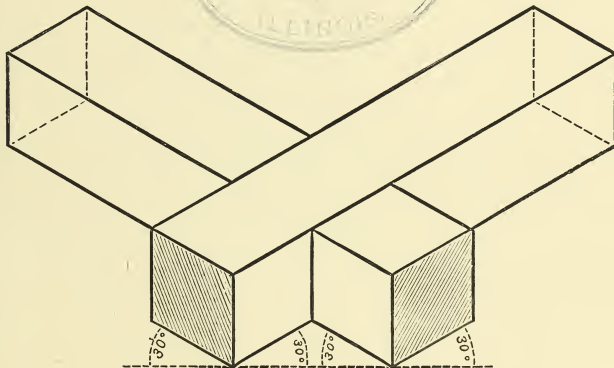


PLATE 25.

SCALE 6" = 1"

FRAME WITH HALVED NOTCHED JOINTS (OXFORD FRAME)

Prepare four pieces of wood $7\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$. Gauge for halved notched joint at $1\frac{1}{4}$ " from each end of each piece. Saw to the marks, and take out with chisel.

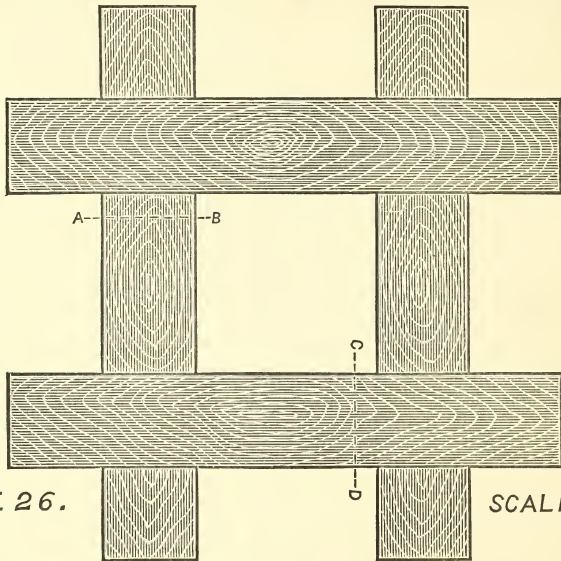


PLATE 26.

SCALE 6"=1'

MITRE JOINT

True up a piece of wood to $9 \times 1\frac{1}{4} \times 1\frac{1}{4}$ and halve it. Set out the mitre on each piece; saw to the marks; pare with a chisel if required, and glue or nail together.

FIG. 1.

FIG. 2.

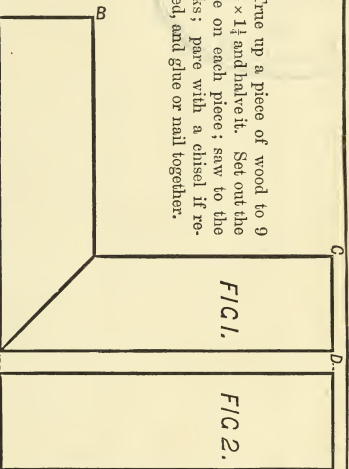


FIG. 3.

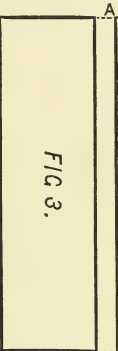


FIG. 4.

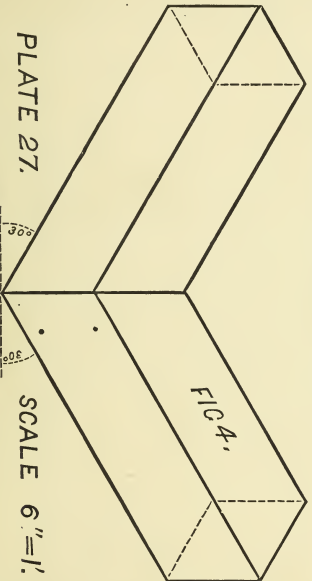


PLATE 27.

SCALE 6"=1'.

FRAME WITH MITRE JOINTS

Prepare four pieces of wood $7\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$, and mitre together as in Plate 27

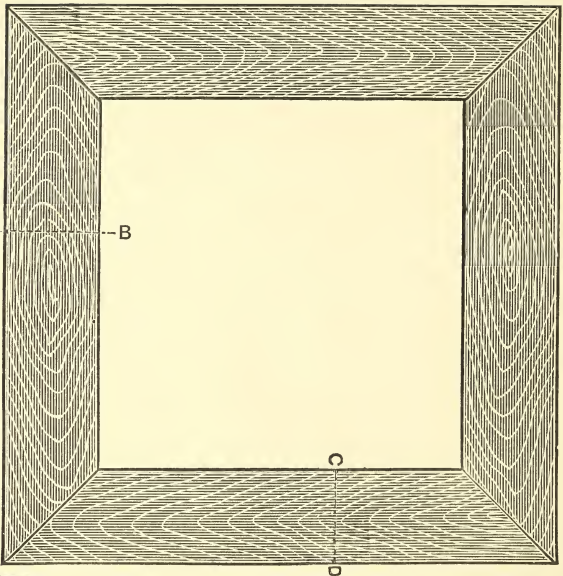


PLATE 28.

SCALE 6"=1'

*Designed and drawn by H. Jay, Technical Instructor
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*Arranged by E. R. Kidson, F.G.S., Science Demonstrator
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OPEN MORTISE AND TENON JOINT

True up a piece of wood to $9 \times 1\frac{1}{4}$ and halve it. On one piece set out the mortise (fig. 2), and on the other the tenon (fig. 3). Saw the tenon just outside the marks, and the mortise just within the marks, and take out with chisel.

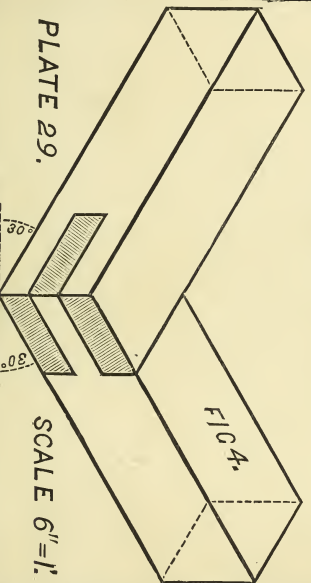
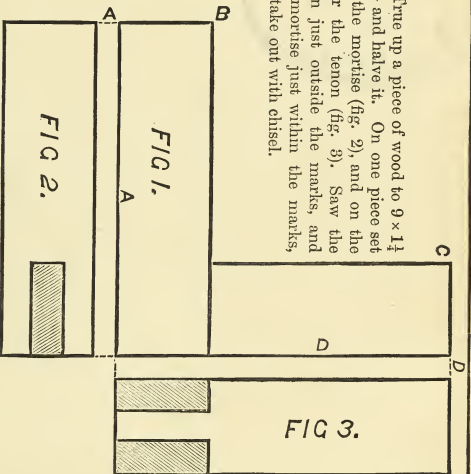


PLATE 29.

PROJECTION OF OPEN MORTISE AND TENON JOINT

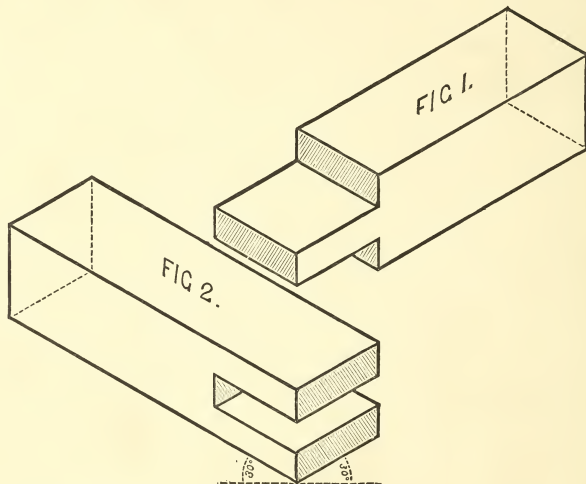


PLATE 30.

SCALE 6"=1'

FRAME WITH OPEN MORTISE AND TENON JOINTS

Prepare four pieces of wood $7\frac{1}{2} \times 1\frac{1}{4} \times 1\frac{1}{4}$. On two of them set out tenons, and on the others mortises. Take out pieces with saw and chisel, and join to form a frame.

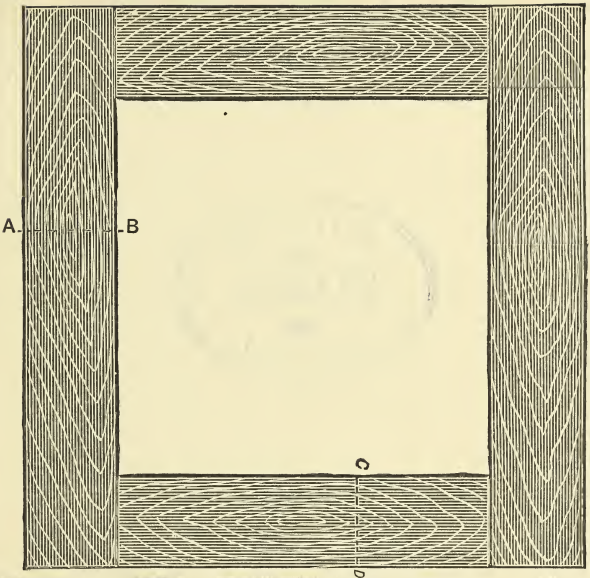


PLATE 31.

SCALE 6"=1'.

*Designed and drawn by H. Jay, Technical Instructor
under Nottingham School Board*

*Arranged by E. R. Kidson, F.G.S., Science Demonstrator
under Nottingham School Board*

MITRED MORTISE AND TENON JOINT

True up a piece of wood to $9 \times 1\frac{1}{4}$
 $\times 1\frac{1}{4}$ and halve it. Mitre each piece.
 On one set out mortise, and on the
 other the tenon. Take out waste
 with saw and chisel.

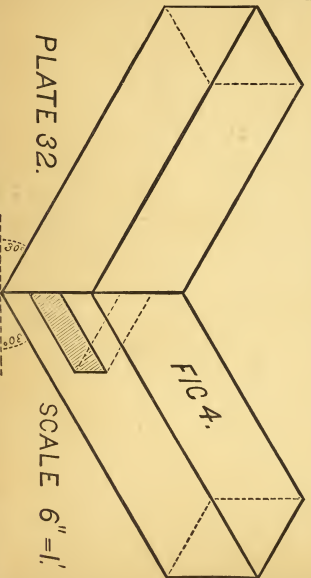
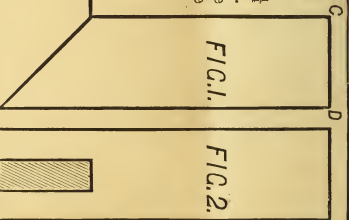


PLATE 32.

SCALE 6" = 1'